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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,951

08/14/2006

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EXAMINER

INYARD, APRIL C

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/597,951	Applicant(s) IKEDA ET AL.	
	Examiner APRIL C. INYARD	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 6-7,9-11 and 18-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8, and 12-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/14/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

The present application 10/597951 is a national stage entry of PCT/JP04/18198. Priority to foreign application JP 2004-040870 filed 02/18/2004 is acknowledged.

Cancellation of Claims 6-7, 9-11, and 18-26 is made of record.

Claims 1-5, 8, and 12-17 are currently pending in the above identified application and have been considered as follows:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1-5, 8, and 12-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

For example, **Claim 1** is unclear because it is not fully understood what Applicant means by the recitation of “a water pressure transfer article” and “characterized by having glossy variation and/or touch feeling...in accordance with a combination of ultraviolet ray hardening

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resin composite”. As best understood by the Examiner, it appears that Applicant intends for the claim to be toward an article that has a decorative surface layer obtained by transferring a printed pattern to the surface using the water pressure transfer method, followed by protecting the decorative layer with a UV-lacquer. Furthermore, it is not clear how the object can have an “outermost decorative layer formed thereon” while the ultraviolet ray hardening resin is the outermost layer of the decorative surface.

Claims 2 and 4 are vague because the claims are toward a product but further limit either claim 1 or 3 by reciting that the UV-lacquer is "what recovers the adhesion of said print pattern on a water pressure transfer operation". However, there is neither antecedent basis for "the adhesion of said print pattern", nor is it clear what subject matter Applicant intends to encompass by this limitation. As best understood by the Examiner, this limitation is interpreted to mean that the UV-lacquer serves as a protection layer and maintains adhesion between the article and the printed pattern.

Claim 3 recites that the printed pattern has high and low gloss pattern areas “based on glossy variation corresponding to a combination of ultraviolet ray hardening resin composite applied on said print pattern to be wholly united with said print pattern and hardened by an ultraviolet ray and a component of said print pattern.” As presently written, it is unclear as to where the high and low gloss pattern is derived from, or if the high and low gloss pattern is simply a property inherent to the printed pattern itself, or is it a reaction that takes place between the printed ink portion and the top coat layer? The Examiner therefore considers any printed pattern having high and low gloss areas that is protected by a UV-lacquer to read on the instant claim.

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Claim 5, which depends from Claim 3, further limits the low glossy pattern portion in that it “is formed in a portion of said print pattern where an ink containing a high oil absorption component to oil-absorb said ultraviolet ray hardening resin composite”. This is vague and indefinite for two reasons.

First, this appears to be a literal translation into English from a foreign document and is replete with grammatical and idiomatic errors.

Second, it is unclear as to whether as presently written the claim language invokes product-by-process language. Given its best reasonable interpretation, the Examiner interprets this as a product-by-process limitation, where, if accurately understood, Applicant claims that the low glossy portions are formed in the top coat gloss by the process of oil-absorption of the top coat in regions of the printed ink pattern that contain a high oil absorption component. Therefore, the Examiner considers any prior art teachings of variable top coat gloss to meet the limitations of each of Claims 3 and 5 because regardless of the process used, the final product, a transparent top coat having varied patterns of glossiness, is patentably indistinguishable from the claimed invention.

Claim 12 is vague and indefinite because it is not fully understood what “difference of glossy degree” Applicant is referring to. Is the difference between the high and low gloss areas or between the low gloss area and the UV-lacquer? The Examiner interprets this as the difference between the high and low gloss areas.

Claim 14 is vague and indefinite because it is not fully understood what Applicant intends to encompass by the limitation wherein “said outermost decorative layer having said high and low glossy pattern portions has solvent resistance adapted to be never deteriorated even by

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manually and reciprocatively wiping a ten-sheet piled gauze containing xylene on said decorative layer eight times while it is rubbed thereon.” Use of the phrase, “adapted to” does not further limit the claim because Applicant does not suggest or require the outermost decorative layer to have any specific chemical property, composition, or structure, but simply expresses the intended durability of a UV-lacquer layer. Furthermore, “never deteriorated even by manually wiping...eight times” is given no weight because the claim scope does not require these steps to be performed and does not limit the outermost layer to a particular structure. *MPEP 2111.04*. The Examiner therefore interprets the claim to mean that the UV-lacquer coating is durable, and therefore any prior art teaching use of a UV-lacquer coating is considered to read on the instant claim and thus be capable of withstanding any proposed durability tests.

Claim 16 is vague and indefinite as it is not clear what Applicant means by "early" and "late" wood portions. As such, the Examiner interprets this to mean a wood grain pattern having both dark (late) and light (early) grains in the pattern so as to realistically replicate the dimensional quality of wood grain.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. **Claims 1-5 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Atake (JP 05-016598; references are to the machine translation) as evidenced by Daunheimer et al. (US Pat. No. 4,029,831).**

Regarding **Claim 1**, the Examiner first makes of record use of the product-by-process limitation “formed thereon by transferring a print pattern on a water-soluble film under water pressure”. It is noted the “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218, USPQ 289, 292 (Fed. Cir. 1983). See MPEP 2113.

Atake discloses an object that is decorated with a pattern where the pattern is transferred to the object using the water pressure transfer method followed by coating the decorated outermost patterned surface of the object with an ionizing radiation (ultraviolet) curable resin lacquer (*Claims; pars. [0005], [0021]-[0023]; Figs. 1 and 3*).

Atake teaches that automobile parts and paneling (*par. [0030]*) are often the resin-molded objects (*par. [0022]*) decorated with such water pressure transfer sheets (*Working Examples and related text*). In Fig. 3, Atake teaches that the coating layer (33) in the sheet (31) used to transfer a decorative pattern (M) by water pressure transfer is what provides adhesiveness

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to an object (*par.* [0032]). After the sheet floats to the surface of the water, a polyvinyl-alcohol resin film (32) swells and separates from the sheet, allowing the printed pattern (M) and curable, protective top coat layer (33) to adhere to the object (*pars.* [0032]).

The top coat layer taught by Atake is a resin that is cured by ultraviolet radiation (*pars.* [0014], [0021], and [0023]).

Atake specifically discloses that the printed pattern layer (M) can be an ink that can interact with the curable top coat layer, where such printed inks can alter the curability (hardening) of the top coat, and also appear to be able to absorb some of the top coat (6th Embodiment and related text, *pars.* [0010]-[0014]).

As evidenced by Daunheimer, glossy variations can be achieved in resinous top coat materials through interaction of the top coat with a curing inhibitor in the form of a liquid ink solution, thus creating regions that cure at a different rate than the other regions and result in surface regions of different gloss (*Abstract; Col 4, lines 7-26*).

Therefore, the Examiner deems that the printed ink, M, that controls the curability of the top coat resin that are locally in contact with those underlying printed areas and the embossing crevices of Atake yield a top coat surface with variable glossiness (regions with high and low gloss) and texture, as recited in Claim 1. The ultraviolet hardening top coat and printed pattern taught by Atake are considered to correspond to Applicant's claimed printed pattern and ultraviolet ray hardening resin "characterized by having glossy variation and/or touch feeling".

The objects (resin-molded objects and car panels of the working Examples) decorated by a water pressure transferred printed sheet of Atake correspond to Applicant's claimed article having a decorative layer formed thereon.

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Additionally, the Examiner takes the position that this variation in glossiness is a result of the printer's ink and its ability to interact with the overlying ultraviolet hardening resin, and therefore this reads on Applicant's claimed "glossy variation corresponding to a combination of ultraviolet ray hardening resin composite applied on said print pattern and hardened by an ultraviolet ray and a component of said print pattern" of Claim 3.

Therefore, Atake discloses an article that meets the limitations of **Claims 1 and 3**.

Regarding **Claims 2 and 4**, as interpreted above, as best understood by the Examiner, these claims limitations are interpreted to mean that the UV-lacquer serves as a protection layer and maintains adhesion between the article and the printed pattern.

As discussed above, Atake teaches that the ionizing radiation hardening resin has good adhesiveness (*Claims, pars. [0008]-[0011]*). Additionally, Atake discloses the process of water pressure transferring, wherein the sheet base material (32) swells and separates from the transfer sheet, and the ionizing radiation cover layer has adhesiveness that covers the whole surface of the printed pattern layer (*par. [0011]*), best interpreted to mean that the ultraviolet curing resin retains the printed pattern layer due to its adhesiveness, and subsequently allows for the decoration to be adhered to the object.

Therefore, Atake meets all limitations of **Claims 2 and 4**.

Regarding **Claim 5**, as discussed above, the Examiner interprets the language of the instant claim to be a product-by-process limitation, where the Examiner takes the position that any teaching in the prior art of a top coat curable resin layer having variable glossiness reads on the presently recited limitations, because the process by which such glossy variations is achieved is unpatentable.

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Although Atake does not disclose that the ionizing radiation top coat layer has variable gloss, the Examiner deems that use of a printer's ink that modifies the curability of the top coat in those regions will result in a top coat having variable glossiness. Although Atake does not explicitly state that the printer's ink contains a high oil absorption component, Atake does teach that the ink modifies the properties of the curable resin in those overlying regions. It is noted the "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process", *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Further, "although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product", *In re Marosi*, 710 F.2d 798, 802, 218, USPQ 289, 292 (Fed. Cir. 1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed (process) and given that Atake meets the requirements of the claimed composition, Atake clearly meet the requirements of present claims, where the Examiner deems that the top coat will be less glossy in the regions overlying the printed pattern regions using ink that modifies the curability of the overlying top coat resin.

Regarding **Claim 14**, Atake teaches that the ionizing radiation hardening resin has very good durability and a scratch-proof nature (*par. [0012]*). The Examiner takes the position that the top coat layer of Atake thus meets Applicant's claimed limitations.

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 8, 12-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atake as evidenced by Daunheimer in view of Ohta et al. (US Pat. No. 4,396,448).**

As discussed above, Atake teaches an article that meets the limitations of Claims 3, 5, and 14.

Regarding **Claims 8 and 12**, as discussed above, Atake discloses use of printer's inks that modify the hardening (curability) of the top coat in those regions overlying the printed pattern using such inks, where the regions of the top coat that are modified by the underlying ink are taken to be regions with lower surface gloss.

Atake does not specifically disclose the measured differences between regions of high and low gloss.

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As evidenced by Daunheimer, the most common type of reflection is called diffuse reflection, in which light is reflected in all directions, and another class is called specular reflection which is mirror-like, where high gloss describes specular reflecting surfaces, and low gloss describes diffuse reflection (*Col 1, lines 16-32*), where such .

Given that Atake uses inks that inhibit or slow the curability of the ionizing radiation resin top coat, Atake therefore discloses regions of high (specular) and low (diffuse) gloss.

Therefore, the Examiner takes the position that these regions will have less than the “specular” surface gloss, meeting the limitations of Claim 8; and the Examiner further takes the position that the difference in glossiness of the curable resin in regions that overlay and are between the printed ink pattern likewise meets Applicant’s claimed limitation that the difference is 10 or more degrees.

Alternatively, regarding **Claims 8, 12-13 and 15-17**, in an analogous art of decorating articles, Ohta teaches use of the water transfer process (*Col 5, lines 10-30*) to decorate surfaces, particularly with patterns that more realistically resemble the natural source such as a stone or piece of wood (*Col 1, lines 9-13; Col 2, lines 23-28*). Ohta discloses that the realistic nature of such decorative laminate materials is due to the shape and gloss that must closely resemble the three-dimensional pattern such that gloss patterns consists of gloss parts and matted parts (*Col 2, lines 13-18*). Ohta further teaches creating three-dimensional surfaces on the laminate by embossing, followed by matting of the protruding parts by incorporating a matting agent into the cover coat (*Col 5, lines 31-48*), or to make the surface appear more realistic the cover coat contains a matting agent where the coating has partially matter parts and partially shiny parts (*Col 6, lines 11-21*). In Examples 11-12, Ohta discloses a printed decorative sheet of wood grain

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pattern having matted tracheal grain portions with darker ink, and glossy lighter colored portions therebetween (*Cols 14-15, Examples 11-12 and related text*).

The surface luster of the glossy regions taught by Ohta correspond to a mirror reflectivity of about 70 (*Col 14, line 60*).

The Examiner therefore deems that the matted regions have a diffuse surface luster that do not qualify as spectral, and therefore have a glossy degree lower than 20 (Claim 8) and differ from the spectral glossy regions by a greater than 10 (Claim 12).

It would have therefore been obvious at the time the invention was made to one having ordinary skill in the art to modify the curable top coating of Atake to have the glossy variations as taught by Ohta because this will result in a pattern that is more three-dimensional and realistic in nature having greater contrast and depth.

It would have further been obvious at the time the invention was made to one having ordinary skill in the art to modify the curable top coat of Atake by including the matting agent as taught by Ohta because the matting agents achieve the desired glossiness of the top coat when disposed on top the printed ink pattern to yield a more realistic looking decorative pattern.

It would have additionally been obvious to one having ordinary skill in the art to at the time the invention was made to modify the pattern taught by Atake with the grain pattern having the glossy and matt variations and dark and light grain colorings as taught by Ohta because this will result in a water pressure transfer laminate and decorated article that more closely emulates a realistic looking natural wood product.

Further regarding Claims 8, 12-13, and 15-17, the Examiner notes that all of the limitations pertain to the degree of glossiness between high and low gloss regions, the type of

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pattern printed (wood grain), and the coloring of the wood grain pattern. However, it has been held that matters relating to ornamentation only which have no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art. *In re Seid*, 161 F.2d 229, 73 USPQ 431 (CCPA1947).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to APRIL C. INYARD whose telephone number is (571) 270-1245. The examiner can normally be reached on Monday - Thursday 8:00 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1794

APRIL C INYARD /A. C. I./
Examiner, Art Unit 1794